



*From “Wetland Program Development Grants (WPDGs) Case Studies”  
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**Colorado Wetland Partnership (CWP):** *Establishing a link to measurable environmental outcomes through increased monitoring and evaluation of wetland projects*

**Introduction**

Administered by the Colorado Division of Wildlife, the Colorado Wetland Partnership (CWP) was established in 1997 in response to a need for coordinated wetlands protection in the state. CWP runs a voluntary, incentive-based program for restoring, enhancing, creating, managing, and protecting wetlands, associated uplands, and wetland-dependent wildlife. To date, the CWP has completed over 600 projects that have protected or restored over 215,000 acres of habitat and over 200 stream miles. A diverse group of partners – private landowners, conservation organizations, and natural resource agencies – is responsible for generating over \$45 million in total funding.

U.S. Environmental Protection Agency (EPA) WPDGs have supported efforts to inventory, monitor, and assess Colorado’s wetland resources. WPDG awards provided partial funding for the initial strategic planning and organization of the CWP, helping to lay the foundation for an innovative statewide program. In recent years, WPDG funds have supported the development of technical tools for wetland practitioners, have been used to fill information gaps regarding playa and wetland distribution, abundance and condition in Colorado and have assisted in the development of needed framework for continuing to inform wetlands protection strategies in the state.

**WPDG Activity**

The Rocky Mountain Bird Observatory, a CWP partner, was awarded WPDGs in 2002 and 2003 for *Developing Statewide Monitoring and Assessment Tools and Strategies, Phase I and II*. These grants played a key role in developing monitoring protocols and demonstrating monitoring activities that complement CWP’s on-the-ground wetlands conservation work. The purpose of the Wetlands Monitoring and Evaluation Project (WMEP) was to monitor and assess the ecological impacts from CWP projects. The WMEP has undertaken three major initiatives:

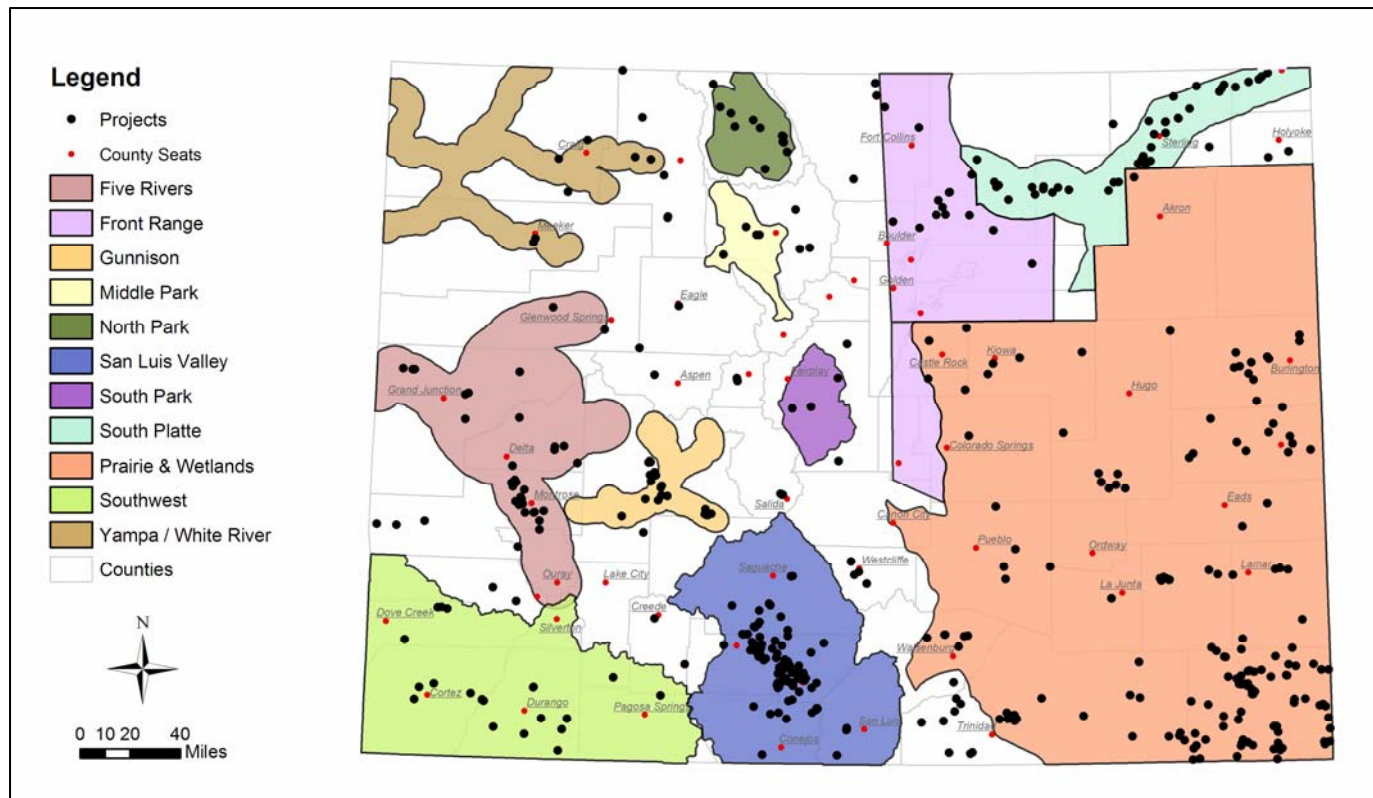
1. ***Project tracking*** entailed compiling information for all CWP projects to build a complete program reference resource for the CWP. The WMEP populated a database for over 600 projects including information on objectives, project description, project type, wetland type, location, partners, and contacts. Project tracking information was verified and updated during the site assessment process.
2. ***Site assessments*** were qualitative reviews of individual projects including site visits and land manager interviews. Baseline visits were made to CWP projects to document ecological conditions prior to project initiation. Repeat visits will be made after five and ten years. Site assessment activities yield ecological

information about hydrology, plant associations and wildlife habitat characteristics. This information can then be distributed to land managers and used to compile statewide summaries for the CWP.

3. ***Intensive monitoring*** activities collected quantitative data to document species responses to CWP projects with specific biological objectives. The WMEP documented breeding bird responses to demonstration riparian restoration projects with improvement of avian habitat as a project goal. Nest searches for breeding waterfowl, shorebirds and other waterbirds were conducted on CWP projects designed to enhance breeding habitat for those guilds. The WMEP monitored wetland-dependent bird responses to CWP projects designed to provide migration habitat along the South Platte River in eastern Colorado. Finally, the WMEP also initiated long-term monitoring of rare plant communities protected by three CWP projects.

The WMEP has successfully initiated a complex, statewide wetlands monitoring effort, including to date: 1) 165 site assessments in 10 of 11 Colorado wetland focus areas; 2) three years of bird surveys and assessed vegetation on 12 riparian study sites; 3) three years of waterbird breeding surveys and habitat monitoring on eight study sites in the San Luis Valley; 4) three seasons of migration monitoring in four wetland complexes along the South Platte River; and 5) plant community surveys on three wetlands protection study sites.

The WMEP has also conducted outreach to Colorado wetland focus area committees and CWP and presented findings at local and national conferences. Through data dissemination, the WMEP provides managers, biologists, conservation planners and funding agencies with a better understanding of wetland restoration and protection outcomes in Colorado, as well as information for developing strategic approaches to wetlands conservation. The availability of this data strengthens the CWP by providing an evaluative link between wetland projects and new funding, essentially enabling the adaptive management process.



CWP Focus Areas and Project Locations, Map courtesy of the Rocky Mountain Bird Observatory

**Representative Photos of CWP Sites, Photos courtesy of the Rocky Mountain Bird Observatory:**



### **Current Work and Future Plans**

EPA WPDGs awarded in 2003, 2004, and 2005 funded a three-phase effort to establish a vegetation index of biotic integrity (VIBI) for Colorado wetlands in the Southern Rocky Mountain Ecoregion. This approach uses multiple vegetation characteristics or “metrics” to provide a semi-quantitative method for assessing the health or biotic integrity of a particular wetland. The VIBI is being developed by sampling various attributes of vegetation in wetlands from poor to excellent condition. Attributes that show a predictable response to increasing human disturbance are incorporated into the index. The resulting VIBI provides a numerical value that can be used to evaluate wetland health of a specific wetland with time or used to compare quality of wetlands of a similar type (i.e., same HGM class). After continued field testing, an initial VIBI model will be developed and validated on an independent data set, with a final VIBI model expected in 2008.

For more information on the Colorado Wetland Partnership and its role within the state, please visit the website (<http://wildlife.state.co.us/LandWater/WetlandsProgram/>).

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